

Further Data Exchange Standardization for Space Thermal Analysis

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ABSTRACT

Over the last years the STEP-based standards STEP-TAS and STEP-NRF have been developed under ESA funding. STEP-TAS has been implemented in many different thermal-radiative analysis packages, both in Europe and the US. In the European tools ESARAD and THERMICA the import/export interfaces are now reasonable mature and are used in practice.

The presentation will discuss the way forward on the ongoing implementation of the STEP-TAS standard for the exchange of further features beyond the basic thermal-radiative face geometry and thermo-optical properties. These features include kinematic articulation and definition of analysis cases: orbit, attitude, pointing, thermal space environment, etc.

In addition the new stand-alone, bi-directional TRASYS/STEP-TAS converter will be shown, which will be made available from ESA for free of charge download and usage. Attention will also be given to the use of STEP-NRF and the XML and HDF5 standards for the exchange of lumped parameter thermal network models and their results. Examples of such tools are ESATAN and the various SINDAs. The results of prototyping activities in this area will be presented.